15

## CLAIMS

## What is Claimed is:

- 1 1. A method for erecting (flat) blanks (12) for cartons, collapsible boxes, trays
- 2 (11) and the like, with said blanks (12) being moved in front of an aperture (16) of
- a forming shaft (17) and introduced therein by means of a forming punch (20, 22),
- 4 which can be raised and lowered, whereby parts of the blank (12) in the region of
- 5 walls (15) of the cartons, collapsible boxes, trays and the like, are erected in the
- 6 process, characterized in that, once the blank (12) has been introduced into the
- 7 forming shaft (17), the forming punch (20, 22) is moved, in a direction opposite to
- 8 that of pressing down the blanks (12), at least partially out of the forming shaft
- 9 (17) and returned to a position in front of the aperture (16) of the forming shaft
- 10 (17).
  - 1 2. The method according to Claim 1, characterized in that the forming shaft
  - 2 (17) is assigned at least two forming punches (20, 22) which are moved into the
  - 3 forming shaft (17) in succession in order to press respectively a separate blank
  - 4 (12) into the forming shaft (17).
  - 1 3. The method according to Claim 2, characterized in that the forming
  - punches (20, 22) can be swiveled out of the forming shaft (17).
  - 1 4. The method according to Claim 2, characterized in that the forming
  - 2 punches (20, 22) are moved outside of the forming shaft (17) in front of its
  - aperture (16) for the purpose of pressing down a further blank (12).
  - 1 5. The method according to Claim 1, characterized in that the forming
  - 2 punches (20, 22) are continuously driven by means of a common drive (24, 55).
  - 1 6. The method according to Claim 1, characterized in that the blanks (12) are
  - taken from a stack of blanks (13) and conveyed in front of the aperture (16) of the
  - 3 forming shaft (17).
  - 1 7. The method according to Claim 1, characterized in that after passing
  - 2 through the forming shaft (17) the at least partially erected blanks (12) are fed to a
  - 3 conveying means (21) having at least one conveyor belt (45).

- 1 8. The method according to Claim 7, characterized in that the blanks (12) are
- 2 fed by the forming punches (20, 22) to the conveying means (21), or pressed
- between carriers (48) mounted on the conveying means (21).
- 1 9. The method according to Claim 7, characterized in that the erection of the
- blanks (12) is completed during their transport on the conveying means (21) by
- the filling of products (10) into the partially completed cartons, collapsible boxes,
- 4 trays (11) and the like.
- 1 10. A device for erecting flat blanks (12) for cartons, collapsible boxes, trays
- 2 (11) and the like, in which said blanks (12) are moved in front of an aperture (16)
- of a forming shaft (17) and introduced therein by means of a forming punch (20,
- 4 22), which can be raised and lowered, whereby parts of the blank (12) in the
- 5 region of walls of the cartons, collapsible boxes, trays (11) and the like, are
- 6 erected in the process, characterized in that, once the blank (12) has been
- 7 pressed into the forming shaft (17), the forming punch (20, 22) can be moved at
- 8 least partially outside of the forming shaft (17) and returned to a position in front of
- 9 the aperture (16) of the forming shaft (17), wherein the forming punch (20, 22) is
- moved out of the forming shaft (17) in a direction opposite to that of pressing in
- 11 the blanks (12).
- 1 11. The device according to Claim 10, characterized in that the forming shaft
- 2 (17) is assigned at least two forming punches (20, 22) which can be moved in
- 3 succession in order to press respectively a separate blank (12) through the
- 4 forming shaft (17).
- 1 12. The device according to Claim 11, characterized in that the forming
- 2 punches (20, 22) are rotatably mounted for the purpose of swiveling out of the
- 3 forming shaft (17) or for swiveling in front of the aperture (16) of the forming shaft
- 4 (17).
- 1 13. The device according to Claim 11, characterized in that the respective
- 2 forming punches (20, 22) are rotatably mounted on a carriage (42, 50) that can be
- moved up and down outside of the forming shaft (17).

- 1 14. The device according to Claim 10, characterized in that arranged at the end
- of the forming shaft (17) is a conveying means (21) for receiving the blanks (12)
- that have been at least partially erected in the forming shaft (17).
- 1 15. The device according to Claim 14, characterized in that the at least partially
- 2 erected blanks (12) can be transferred directly by the forming punches (20, 22) to
- receptacles for blanks (12) in the region of the conveying means (21).
- 1 16. The device according to Claim 13, characterized in that the forming
- punches (20, 22) are disposed to move up and down in the vertical direction on a
- 3 respective endless conveyor as part of a linear axis (51).
- 1 17. The device according to Claim 14, characterized in that the forming
- punches (20, 22) can be pivoted or swiveled on a strand of the endless conveyor
- by means of a carriage (50) arranged on the endless conveyor.
- 1 18. The device according to Claim 14, characterized in that the endless
- 2 conveyor is assigned a common drive (24, 55).
- 1 19. The device according to Claim 13, characterized in that the carriages (50)
- are each assigned a drive (52) for the purpose of pivoting the forming punches
- 3 **(20, 22)**.